

TECHNICAL BULLETIN

TB 0178

Removal of 7 Ω requirement for Level 2 common earth designs

Background

EDI 100 (Annexure 4) currently requires common earthed assets designed under '*Level 2 – Predetermined voltage limit criteria*' to achieve a HV earth grid resistance of $\leq 7 \Omega$ for safety backup and redundancy in conjunction with a compliant design.

Research into this requirement has concluded that this safety backup and redundancy can be achieved using either a **1 x 4.8m electrode** or **2 x 2.4m electrodes** (unless the design specifies otherwise) for Level 2 designed common earth installations with $\leq 1000 \Omega.m$ soil resistivity and a Sensitive Earth Fault (SEF) pick up of ≤ 10 amps.

Action

Any Level 2 common earth designs that have not been constructed at the time of the release of this technical bulletin will need to be constructed in line with the design. All new level 2 designs after the release of this technical bulletin where

- Soil resistivity $\leq 1000 \Omega.m$ (highest of two soil resistivity layers), and
- SEF ≤ 10 amps and is present on the feeder

will no longer be required to meet the $\leq 7 \Omega$ criteria, but can be installed with a **1 x 4.8m electrode** or **2 x 2.4m electrodes** unless the design requires otherwise.

All designs are still required to meet all other safety requirements for a *Level 2 – Predetermined voltage limit criteria* or a compliant 3E design.

Requirements for common earthed assets designed to '*Level 1 – Conservative compliance criteria*', remain unchanged.

Construction employees should always refer to the design drawing to determine what type of earthing should be present at each site.

Future reviews of EDI 100 will reflect the information in this technical bulletin.

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